

WHAT IS CLAIMED IS:

1. A developing device for developing an electrostatic latent image formed on an electrophotographic photosensitive member, said
- 5 developing device being usable with a main assembly of an electrophotographic image forming apparatus, said developing device comprising;
- a developing member for supplying a developer to the electrophotographic photosensitive member for
- 10 developing the electrostatic latent image formed on said electrophotographic photosensitive member;
- a first electrode provided opposed to developing member;
- a second electrode disposed such that at
- 15 least a lower end thereof takes a position lower than said first electrode when said developing device is mounted to the main assembly of the electrophotographic image forming apparatus;
- wherein an electric signal is generated in
- 20 accordance with an electrostatic capacity between said first electrode and second electrode when said first electrode or second electrode is supplied with a voltage from the main assembly of said electrophotographic image forming apparatus, and is
- 25 measured by the main assembly of the electrophotographic image forming apparatus to detect a remaining amount of the developer.

0986171 04004
106040 1272850

2. A device according to Claim 1, wherein said first electrode and said second electrode are disposed along a length of said developing member which is in the form of a developing roller.

5

3. A device according to Claim 1 or 2, wherein said first electrode and a frame supporting said second electrode constitute a recess extending parallel to said developing device frame, said recess
10 opens downward.

4. A device according to Claim 1, 2 or 3, wherein each of said first electrode and second electrode has a plate shape, wherein a length of said
15 first electrode, measured in a direction crossing with a longitudinal direction of said developing member, is longer than said second electrode.

5. A device according to Claim 1 or 2, wherein
20 one and the other of said first and second electrodes are plate-like and rod-like electrodes.

6. A developing device for developing an electrostatic latent image formed on an
25 electrophotographic photosensitive member, said developing device being usable with a main assembly of an electrophotographic image forming apparatus, said

to the main assembly of said electrophotographic image forming apparatus, an electric signal corresponding at least to electrostatic capacities between said first electrode and second electrode and between said
5 developing member and said third electrode, when the voltages are applied to said first electrode and to said developing member, to detect a remaining amount of the developer by the main assembly of the electrophotographic image forming apparatus.

10

7. A device according to Claim 6, wherein said first electrode and said second electrode are disposed along a length of said developing member which is in the form of a developing roller.

15

8. A device according to Claim 6 or 7, wherein said first electrode and a frame supporting said second electrode constitute a recess extending parallel to said developing member, and said recess
20 opens downward.

25

9. A device according to Claim 6, 7 or 8, wherein said third electrode is a member which is integral with or separate from said second electrode, and is disposed opposed to said developing member.

10. A device according to any one of Claims 6-9,

further comprising a developer chamber having an opening in which said developing member is supported, and a developer container, connected with said developer chamber, for accommodating the developer, wherein said first, second and third electrodes are provided in said developer chamber.

11. A device according to any one of Claims 1-10, further comprising developer stirring means for stirring the developer, wherein at least said first and second electrodes are disposed in a moving range of the developer provided by rotation of said developer stirring means.

12. A developing device for developing an electrostatic latent image formed on an electrophotographic photosensitive member, said developing device being usable with a main assembly of an electrophotographic image forming apparatus, said developing device comprising;

a developing member for supplying a developer to said electrophotographic photosensitive member to develop the electrostatic latent image formed on said electrophotographic photosensitive member;

a developer accommodating portion for accommodating the developer to be used for development of the electrostatic latent image by said developing

member;

a developer path electrode disposed along a path along which the developer accommodated in said developer accommodating portion moves to said

5 developing member;

wherein an electric signal corresponding to an electrostatic capacity between said developing member and said developer path electrode is generated when a voltage is applied to said developing member
10 from the main assembly of said electrophotographic image forming apparatus, to permit detection of a remaining amount of the developer by measuring the electric signal.

15 13. A developing device for developing an electrostatic latent image formed on an electrophotographic photosensitive member, said developing device being usable with a main assembly of an electrophotographic image forming apparatus, said
20 developing device comprising;

a developing member for supplying a developer to said electrophotographic photosensitive member to develop the electrostatic latent image formed on said electrophotographic photosensitive member;

25 a first electrode provided so as to exhibit the same or potential as said developing member;

a second electrode disposed such that at

098647-04004

least a lower end thereof takes a position lower than said first electrode when said developing device is mounted to the main assembly of the electrophotographic image forming apparatus;

5 a developer path electrode disposed along a path along which the developer accommodated in said developer accommodating portion moves to said developing member;

10 a first electrical contact for receiving, from the main assembly of said electrophotographic image forming apparatus, a voltage to be applied to said first electrode when said developing device is mounted to the main assembly of said electrophotographic image forming apparatus;

15 a second electric contact for receiving, from the main assembly of said electrophotographic image forming apparatus, a voltage to be applied to said developing member when said developing device is mounted to the main assembly of said

20 electrophotographic image forming apparatus; and

 a third electrical contact for transmitting, to the main assembly of the electrophotographic image forming apparatus, an electric signal corresponding to electrostatic capacities at least between said first
25 electrode and said second electrode and between said developing member and said developer path electrode to detect a remaining amount of the developer by the main

09364 040501
105040 4 29880

assembly of the electrophotographic image forming apparatus.

14. A device according to Claim 12 or 13, wherein
5 said developer path electrode is in the form of a plate extending along the path.

15. A device according to Claim 13, further comprising a third electrode provided between said
10 second electrode said second electrode and said developing member.

16. A device according to Claim 15, wherein said third electrode is a member which is integral with or
15 separate from said second electrode, and is disposed opposed to said developing member.

17. A device according to any one of Claims 13-16, wherein said first electrode and said second
20 electrode are arranged along a length of said developing member which is in the form of a developing roller.

18. A device according to any one of Claims 13-17, wherein said first electrode and a frame
25 supporting said second electrode constitute a recess extending parallel to said developing member, and said

recess opens downward.

19. A device according to any one of Claims 13-
18, further comprising and intermediary electrode
5 between said developing member and said developer path
electrode.

20. A device according to any one of Claims 14-19, further comprising developer stirring means for stirring the developer, wherein at least said first electrode and second electrode are disposed in a moving range of the developer provided by rotation of said developer stirring means.

15 21. A device according to any one of Claims 1, 6
or 13, further comprising a stirring member for
stirring the developer accommodated therein, wherein
at least a lower end of said second electrode takes a
position lower than said first electrode in a
20 direction of movement of the developer provided by
said stirring member, when said developing device is
mounted to the main assembly of the
electrophotographic image forming apparatus.

25 22. A process cartridge detachably mountable to a
main assembly of an electrophotographic image forming
apparatus, comprising:

(a) an electrophotographic photosensitive member;

(b) a developing device including;

5 a developing member for supplying a developer to said electrophotographic photosensitive member to develop the electrostatic latent image formed on said electrophotographic photosensitive member;

a first electrode disposed opposed to said developing member; and

10 a second electrode disposed such that at least a lower end thereof takes a position lower than said first electrode when said process cartridge is mounted to the main assembly of the electrophotographic image forming apparatus, wherein
15 an electric signal is generated in accordance with an electrostatic capacity between said first electrode and second electrode when said first electrode or second electrode is supplied with a voltage from the main assembly of said electrophotographic image
20 forming apparatus, and is measured by the main assembly of the electrophotographic image forming apparatus to detect a remaining amount of the developer.

25 23. A process cartridge according to Claim 22, wherein said first electrode and said second electrode are disposed along a length of said developing member

which is in the form of a developing roller.

24. A process cartridge according to Claim 22 or 23, wherein said first electrode and a frame supporting said second electrode constitute a recess extending parallel to said developing device frame, said recess opens downward.

25. A process cartridge according to Claim 22, 23 or 24, wherein each of said first electrode and second electrode has a plate shape, wherein a length of said first electrode, measured in a direction crossing with a longitudinal direction of said developing member, is longer than said second electrode.

26. A process cartridge according to Claim 22 or 23, wherein one and the other of said first and second electrodes are plate-like and rod-like electrodes.

27. A process cartridge detachably mountable to a main assembly of an electrophotographic image forming apparatus, comprising:

(a) an electrophotographic photosensitive member;

(b) a developing device including;
a developing member for supplying a developer to said electrophotographic photosensitive member to

develop the electrostatic latent image formed on said electrophotographic photosensitive member;

electrode and second electrode and between said
developing member and said third electrode, when the
voltages are applied to said first electrode and to
said developing member, to detect a remaining amount
5 of the developer by the main assembly of the
electrophotographic image forming apparatus.

28. A process cartridge according to Claim 27,
wherein said first electrode and said second electrode
10 are disposed along a length of said developing member
which is in the form of a developing roller.

29. A process cartridge according to Claim 27 or
28, wherein said first electrode and a frame
15 supporting said second electrode constitute a recess
extending parallel to said developing device frame,
said recess opens downward.

30. A process cartridge according to Claim 27, 28
20 or 29, wherein said third electrode is a member which
is integral with or separate from said second
electrode, and is disposed opposed to said developing
member.

25 31. A process cartridge according to any one of
Claims 27-30, further comprising a developer chamber
having an opening in which said developing member is

5

10

15

member; and

(b) a developing device including:

20

25

a developer path electrode disposed along a

path along which the developer accommodated in said
developer accommodating portion moves to said
developing member;

wherein an electric signal corresponding to
5 an electrostatic capacity between said developing
member and said developer path electrode is generated
when a voltage is applied to said developing member
from the main assembly of said electrophotographic
image forming apparatus, to permit detection of a
10 remaining amount of the developer by measuring the
electric signal.

34. A process cartridge detachably mountable to a main assembly of an electrophotographic image forming apparatus, comprising:

(a) an electrophotographic photosensitive member; and

(b) a developing device including:

a developing member for supplying a developer
20 to said electrophotographic photosensitive member to
develop the electrostatic latent image formed on said
electrophotographic photosensitive member;

a first electrode provided so as to exhibit the same or potential as said developing member;

25 a second electrode disposed such that at
least a lower end thereof takes a position lower than
said first electrode when said developing device is

a developer path electrode disposed along a path along which the developer accommodated in said

a first electrical contact for receiving, from the main assembly of said electrophotographic image forming apparatus, a voltage to be applied to said first electrode when said process cartridge is mounted to the main assembly of said electrophotographic image forming apparatus;

a second electric contact for receiving, from the main assembly of said electrophotographic image forming apparatus, a voltage to be applied to said developing member when said process cartridge is mounted to the main assembly of said electrophotographic image forming apparatus; and

a third electrical contact for transmitting,
20 to the main assembly of the electrophotographic image
forming apparatus, an electric signal corresponding to
electrostatic capacities at least between said first
electrode and said second electrode and between said
developing member and said developer path electrode to
25 detect a remaining amount of the developer by the main
assembly of the electrophotographic image forming
apparatus.

35. A process cartridge according to Claim 33 or 34, wherein said developer path electrode is in the form of a plate extending along the path.

5 36. A process cartridge according to Claim 34, further comprising a third electrode provided between said second electrode said second electrode and said developing member.

10 37. A process cartridge according to Claim 36, wherein wherein said third electrode is a member which is integral with or separate from said second electrode, and is disposed opposed to said developing member.

15 38. A process cartridge according to any one of Claims 33-37, wherein said first electrode and said second electrode are arranged along a length of said developing member which is in the form of a developing
20 roller.

39. A process cartridge according to any one of Claims 33-38, wherein said first electrode and a frame supporting said second electrode constitute a recess
25 extending parallel to said developing member, and said recess opens downward.

5

10

15

25

(a) an electrophotographic photosensitive

(b) an electrostatic latent image forming means for forming an electrostatic latent image on said electrophotographic photosensitive member;

a developing member for supplying the
10 developer to said electrophotographic photosensitive
member;

wherein an electric signal is generated in accordance with an electrostatic capacity between said first electrode and second electrode when said first electrode or second electrode is supplied with a voltage from the main assembly of said electrophotographic image forming apparatus, and is measured by the main assembly of the electrophotographic image forming apparatus to detect a remaining amount of the developer.

44. An electrophotographic image forming apparatus for forming an image on a recording material, wherein a process cartridge is detachably mountable to said electrophotographic image forming apparatus, said electrophotographic image forming apparatus comprising:

(a) an electrophotographic photosensitive member; and

mounting means for mounting the process cartridge, said process cartridge including:
a developing member for supplying a developer to said electrophotographic photosensitive member to develop an electrostatic latent image formed on said electrophotographic photosensitive member;

a first electrode disposed opposed to said developing member; and

a second electrode disposed such that at least a lower end thereof takes a position lower than said first electrode when said developing device is mounted to the main assembly of the electrophotographic image forming apparatus; and

said apparatus further comprising:

(b) electrostatic latent image forming means for forming the electrostatic latent image on said electrophotographic photosensitive member; and

developer remaining amount detecting means for detecting a remaining amount of the developer by

measuring an electric signal which is produced by application of a voltage to said first electrode or second electrode and which corresponds to an electrostatic capacity between said first electrode
5 and second electrode.

45. An apparatus according to Claim 43 or 44, wherein said first electrode and said second electrode are disposed along a length of said developing member
10 which is in the form of a developing roller.

46. A apparatus according to Claim 43, 44 or 45, wherein said first electrode and a frame supporting said second electrode constitute a recess extending
15 parallel to said developing device frame, said recess opens downward.

47. An apparatus according to any one of Claims 43-46, wherein each of said first electrode and second
20 electrode has a plate shape, wherein a length of said first electrode, measured in a direction crossing with a longitudinal direction of said developing member, is longer than said second electrode.

48. An apparatus according to Claim 43, 44 or 45, wherein one and the other of said first and second
25 electrodes are plate-like and rod-like electrodes.

(a) an electrophotographic photosensitive
5 member,

(c) a developing device for developing the
10 electrostatic latent image formed on said
electrophotographic photosensitive member, said
developing device including;

a first electrode disposed opposed to said
developing member;

a third electrode disposed between said second electrode and said developing member;

a first electrical contact for receiving,
from the main assembly of said electrophotographic

5 a second electrical contact for receiving,
from the main assembly of said electrophotographic
image forming apparatus, a voltage to be applied to
send developing member when said developing device is
mounted to the main assembly of said
10 electrophotographic image forming apparatus;

(d) developer amount detecting means for
20 detecting an amount of the developer in said
developing device on the basis of the electric signal
transmitted from said third electric contact.

50. An electrophotographic image forming
25 apparatus for forming an image on a recording
material, wherein a process cartridge is detachably
mountable to a main assembly of said

electrophotographic image forming apparatus, said
electrophotographic image forming apparatus
comprising:

(a) an electrophotographic photosensitive
5 member;

(b) mounting means for detachably mounting the
process cartridge, the process cartridge including;

a developing member for supplying a developer
to said electrophotographic photosensitive member to
10 develop the electrostatic latent image formed on said
electrophotographic photosensitive member;

a first electrode disposed opposed to said
developing member;

a second electrode disposed such that at
15 least a lower end thereof takes a position lower than
said first electrode when said developing device is
mounted to the main assembly of the
electrophotographic image forming apparatus;

a third electrode disposed between said
20 second electrode and said developing member;

a first electrical contact for receiving,
from the main assembly of said electrophotographic
image forming apparatus, a voltage to be applied to
said first electrode when said developing device is
25 mounted to the main assembly of said
electrophotographic image forming apparatus;

a second electrical contact for receiving,

from the main assembly of said electrophotographic image forming apparatus, a voltage to be applied to said developing member when said developing device is mounted to the main assembly of said

5 electrophotographic image forming apparatus; and

a third electrical contact for transmitting, to the main assembly of said electrophotographic image forming apparatus, an electric signal corresponding at least to electrostatic capacities between said first
10 electrode and second electrode and between said developing member and said third electrode, when the voltages are applied to said first electrode and to said developing member, to detect a remaining amount of the developer by the main assembly of the
15 electrophotographic image forming apparatus;

(c) electrostatic latent image forming means for forming the electrostatic latent image on said electrophotographic photosensitive member; and

(d) developer amount detecting means for
20 detecting an amount of the developer in said developing device on the basis of the electric signal transmitted from said third electric contact.

51. An apparatus according to Claim 49 or 50,
25 wherein said first electrode and said second electrode are disposed along a length of said developing member which is in the form of a developing roller.

52. An apparatus according to Claim 49, 50 or 51,
wherein said first electrode and a frame supporting
said second electrode constitute a recess extending
parallel to said developing member, and said recess
5 opens downward.

53. An apparatus according to Claim 49, 50, 51 or
52, wherein said third electrode is a member which is
integral with or separate from said second electrode,
10 and is disposed opposed to said developing member.

54. An apparatus according to any one of Claims
49-53, further comprising a developer chamber having
an opening in which said developing member is
15 supported, and a developer container, connected with
said developer chamber, for accommodating the
developer, wherein said first, second and third
electrodes are provided in said developer chamber.

20 55. An apparatus according to any one of Claims
43-54, further comprising developer stirring means for
stirring the developer, wherein at least said first
and second electrodes are disposed in a moving range
of the developer provided by rotation of said
25 developer stirring means.

56. An electrophotographic image forming

apparatus for forming an image on a recording material, comprising

(a) an electrophotographic photosensitive member,

5 (b) an electrostatic latent image forming means for forming an electrostatic latent image on said electrophotographic photosensitive member;

(c) a developing device for developing the electrostatic latent image formed on said
10 electrophotographic photosensitive member, said developing device including;

a developing member for supplying a developer to said electrophotographic photosensitive member to develop the electrostatic latent image formed on said
15 electrophotographic photosensitive member;

a developer accommodating portion for accommodating the developer to be used for development of the electrostatic latent image by said developing member; and

20 a developer path electrode disposed along a path along which the developer accommodated in said developer accommodating portion moves to said developing member;

wherein an electric signal corresponding to
25 an electrostatic capacity between said developing member and said developer path electrode is generated when a voltage is applied to said developing member

20250404 10:00:00

from the main assembly of said electrophotographic image forming apparatus, to permit detection of a remaining amount of the developer by measuring the electric signal.

5

57. An electrophotographic image forming apparatus for forming an image on a recording material, comprising

10 (a) an electrophotographic photosensitive member,

(b) an electrostatic latent image forming means for forming an electrostatic latent image on said electrophotographic photosensitive member;

15 (c) a developing device for developing the electrostatic latent image formed on said electrophotographic photosensitive member, said developing device including;

20 a developing member for supplying a developer to said electrophotographic photosensitive member to develop the electrostatic latent image formed on said electrophotographic photosensitive member;

a first electrode provided so as to exhibit the same or potential as said developing member;

25 a second electrode disposed such that at least a lower end thereof takes a position lower than said first electrode when said developing device is mounted to the main assembly of the

0936174 040504

electrophotographic image forming apparatus;

a developer path electrode disposed along a path along which the developer accommodated in said developer accommodating portion moves to said

5 developing member;

a first electrical contact for receiving, from the main assembly of said electrophotographic image forming apparatus, a voltage to be applied to said first electrode when said developing device is
10 mounted to the main assembly of said electrophotographic image forming apparatus;

a second electric contact for receiving, from the main assembly of said electrophotographic image forming apparatus, a voltage to be applied to said
15 developing member when said developing device is mounted to the main assembly of said electrophotographic image forming apparatus; and

a third electrical contact for transmitting, to the main assembly of the electrophotographic image forming apparatus, an electric signal corresponding to
20 electrostatic capacities at least between said first electrode and said second electrode and between said developing member and said developer path electrode to detect a remaining amount of the developer by the main
25 assembly of the electrophotographic image forming apparatus.

093634 04004

58. An electrophotographic image forming apparatus for forming an image on a recording material, wherein a process cartridge is detachably mountable to a main assembly of said

5 electrophotographic image forming apparatus, said electrophotographic image forming apparatus comprising:

(a) an electrophotographic photosensitive member;

10 (b) mounting means for detachably mounting the process cartridge, the process cartridge including;

a developing member for supplying a developer to said electrophotographic photosensitive member to develop the electrostatic latent image formed on said
15 electrophotographic photosensitive member;

a developer accommodating portion for accommodating the developer to be used for development of the electrostatic latent image by said developing member; and

20 a developer path electrode disposed along a path along which the developer accommodated in said developer accommodating portion moves to said developing member;

wherein an electric signal corresponding to
25 an electrostatic capacity between said developing member and said developer path electrode is generated when a voltage is applied to said developing member

5

10

member;

15

20

the same or potential as said developing member;

25

electrophotographic photosensitive member; and

(c) developer amount detecting means for
detecting an amount of the developer in said
developing device on the basis of the electric signal
5 transmitted from said third electric contact.

60. An apparatus according to any one of Claims
56-59, wherein said developer path electrode is in the
form of a plate extending along the path.

10

61. An apparatus according to any one of Claims
56-60, further comprising a third electrode provided
between said second electrode said second electrode
and said developing member.

15

62. An apparatus according to according to Claim
61, wherein said third electrode is a member which is
integral with or separate from said second electrode,
and is disposed opposed to said developing member.

20

63. An apparatus according to any one of Claims
56-62, wherein said first electrode and said second
electrode are arranged along a length of said
developing member which is in the form of a developing
25 roller.

64. An apparatus according to any one of Claims

56-63, wherein said first electrode and a frame supporting said second electrode constitute a recess extending parallel to said developing member, and said recess opens downward.

5

65. An apparatus according to any one of Claims 56-64, further comprising and intermediary electrode between said developing member and said developer path electrode.

10

66. An apparatus according to any one of Claims 56-65, further comprising developer stirring means for stirring the developer, wherein at least said first electrode and second electrode are disposed in a moving range of the developer provided by rotation of said developer stirring means.

15

67. A developing device for developing an electrostatic latent image formed on an electrophotographic photosensitive member, said developing device being usable with an electrophotographic image forming apparatus, said developing device comprising:

20

a developing member for supplying a developer to said electrophotographic photosensitive member to develop the electrostatic latent image formed on said electrophotographic photosensitive member;

25

```

a stirring member for stirring the developer
accommodated;

```

5

10

20

25

opens downward.

70. A device according to Claim 67, 68 or 69,
wherein each of said first electrode and second
5 electrode has a plate shape, wherein a length of said
first electrode, measured in a direction crossing with
a longitudinal direction of said developing member, is
longer than said second electrode.

10 71. A device according to Claim 67 or 68, wherein
one and the other of said first and second electrodes
are plate-like and rod-like electrodes.

72. A process cartridge detachably mountable to a
15 main assembly of an electrophotographic image forming
apparatus, comprising:

(a) an electrophotographic photosensitive
member; and

(b) a developing device including:

20 a developing member for supplying a developer
to said electrophotographic photosensitive member to
develop the electrostatic latent image formed on said
electrophotographic photosensitive member;

a first electrode disposed opposed to said
25 developing member;

a stirring member for stirring the developer
accommodated;

a second electrode which is disposed at a position different from that of said first electrode in a direction crossing with a moving direction of the developer provided by said stirring member;

5 wherein an electric signal is generated in accordance with an electrostatic capacity between said first electrode and second electrode when said first electrode or second electrode is supplied with a voltage from the main assembly of said
10 electrophotographic image forming apparatus, and is measured by the main assembly of the electrophotographic image forming apparatus to detect a remaining amount of the developer.

15 73. A process cartridge according to Claim 72, wherein said first electrode and said second electrode are disposed along a length of said developing member which is in the form of a developing roller.

20 74. A process cartridge according to Claim 72 or 73, wherein said first electrode and a frame supporting said second electrode constitute a recess extending parallel to said developing device frame, said recess opens downward.

25

75. A process cartridge according to Claim 72, 73 or 74, wherein each of said first electrode and second

electrode has a plate shape, wherein a length of said first electrode, measured in a direction crossing with a longitudinal direction of said developing member, is longer than said second electrode.

5

76. A process cartridge according to Claim 72 or 73, wherein one and the other of said first and second electrodes are plate-like and rod-like electrodes.

10

77. An electrophotographic image forming apparatus for forming an image on a recording material, comprising

(a) an electrophotographic photosensitive member,

15

(b) an electrostatic latent image forming means for forming an electrostatic latent image on said electrophotographic photosensitive member;

(c) a developing device for developing the electrostatic latent image formed on said electrophotographic photosensitive member, said developing device including;

a developing member for supplying a developer to said electrophotographic photosensitive member to develop the electrostatic latent image formed on said electrophotographic photosensitive member;

25

a first electrode disposed opposed to said developing member;

a stirring member for stirring the developer accommodated;

a second electrode which is disposed at a position different from that of said first electrode
5 in a direction crossing with a moving direction of the developer provided by said stirring member;

wherein an electric signal is generated in accordance with an electrostatic capacity between said first electrode and second electrode when said first
10 electrode or second electrode is supplied with a voltage from the main assembly of said electrophotographic image forming apparatus, and is measured by the main assembly of the electrophotographic image forming apparatus to detect
15 a remaining amount of the developer.

78. An electrophotographic image forming apparatus for forming an image on a recording material, wherein a process cartridge is detachably
20 mountable to a main assembly of said electrophotographic image forming apparatus, said electrophotographic image forming apparatus comprising:

(a) an electrophotographic photosensitive
25 member;

(b) mounting means for detachably mounting the process cartridge, the process cartridge including;

a developing member for supplying a developer to said electrophotographic photosensitive member to develop the electrostatic latent image formed on said electrophotographic photosensitive member;

5 a first electrode disposed opposed to said developing member;

a stirring member for stirring the developer accommodated;

10 a second electrode which is disposed at a position different from that of said first electrode in a direction crossing with a moving direction of the developer provided by said stirring member;

(c) electrostatic latent image forming means for forming the electrostatic latent image on said electrophotographic photosensitive member; and
15

(d) developer amount detecting means for detecting an amount of the developer in said developing device on the basis of the electric signal transmitted from said third electric contact.

20

79. An apparatus according to Claim 77 or 78, wherein said first electrode and said second electrode are disposed along a length of said developing member which is in the form of a developing roller.

25

80. An apparatus according to Claim 77, 78 or 79, wherein said first electrode and a frame supporting

said second electrode constitute a recess extending parallel to said developing device frame, said recess opens downward.

5 81. An apparatus according to Claim 77-80,
wherein each of said first electrode and second
electrode has a plate shape, wherein a length of said
first electrode, measured in a direction crossing with
a longitudinal direction of said developing member, is
10 longer than said second electrode.

82. An apparatus according to Claim 77, 78 or 79,
wherein one and the other of said first and second
electrodes are plate-like and rod-like electrodes.

15

20

25